

## R E M A R K S

The Examiner rejects claims 48-63 under 35 §103 as unpatentable Cosman in view of Neff further in view of Nissen.

Claim 48 distinguishes over Cosman in at least four different significant ways.

First, the claim recites a volumetric 3D monitor which shows a 3D volumetric visualization in 3D space. The Examiner relies on the disclosure at column 25, line 40 of Cosman which states that the image scan data of the patient's anatomy may be displayed in slices or three-dimensional volumetric views on a computergraphic workstation display. However, this computergraphic workstation display is shown in Figure 1 at D which is a two-dimensional screen. Clearly Cosman is teaching that a perspective three-dimensional view shown on a two-dimensional surface may be employed. But this is still only a two-dimensional screen. The Examiner seems to agree with this at page 3, second full paragraph when he states: "However, Cosman does not explicitly teach a volumetric 3D monitor which shows the 3D volumetric visualization." Applicant agrees that Cosman does not teach this. To make it even more clear, Applicant has amended claim 48 to recite that the volumetric 3D monitor shows the 3D volumetric visualization in 3D space. This is clearly not a monitor which is two-dimensional but is a true three-dimensional monitor showing the image in 3D volumetric space.

To satisfy this critical deficiency of Cosman, the Examiner relies Neff which in the field of geology shows a bore hole such as in the earth on a concave screen, the top view of which is shown in Figure 2 and the side view of which is shown in Figure 1. This concave screen is clearly not showing a 3D *volumetric* visualization in 3D space. One skilled in the art would never combine a curved concave screen from geology with Cosman relating to a patient image scan. However, even if one skilled

in the art did make this combination, one would simply substitute the concave screen of Neff for the two-dimensional monitor D in Cosman in Fig. 1. But this still would not meet the claim limitation of a 3D volumetric visualization in 3D space.

The second critical way in which claim 48 distinguishes is by reciting an associated surface or surfaces *outwardly spaced* from said 3D volumetric space visualization on which a reference point is definable with respect to 3D visualization. This is illustrated, for example, by the dome-shape surrounding the 3D volumetric space image of a patient's head, this dome-shaped reference surface being illustrated at 8 of Fig. 1 of Applicant's specification drawings. As one can see, this dome-shaped surface is outwardly spaced from the 3D volumetric 3D space visualization. Cosman teaches directly away from this. The Examiner cites Figure 16 and the reference points 1040, 1041, and 1046 in Figure 16. However, these reference points are right on the patient's skin and therefore this teaches directly away from the invention since following this teaching of Cosman one would put the reference directly on the patient's skin. But the claim states that the surface is *outwardly spaced* from the 3D volumetric space visualization.

A third important difference is that in Cosman the reference points are on the patient himself, not on a surface spaced from *an image*. This is completely different than claim 48.

A fourth critical distinction made by claim 48 is the recitation of a direction unit that specifies a direction from said reference point to said point being selected by the user in the 3D volumetric space visualization and a distance unit to set a distance value from the reference point along said direction to said point being selected in the visualization. The Examiner states at page 4, first full paragraph: "Cosman does not teach a distance unit to set a distance value from said reference point along said

direction to said point being selected in the visualization". Applicant agrees that Cosman does not show this. In fact Cosman does not even have a point being selected inside the visualization. To satisfy this critical deficiency, the Examiner relies on a third reference Nissen. Nissen only teaches a method for resizing and moving an object on a two-dimensional computer screen. As part of this resizing and moving of an object Nissen determines the distance and direction from a reference point to a selected point on the two-dimensional computer screen. This has nothing to do with determining a direction and distance from a reference point on a surface spaced outwardly from a 3D space visualization to an internal point inside the 3D space visualization and also determining the distance from that reference point to the internal point on the 3D visualization.

Applicant would appreciate the opportunity to discuss this case in a telephone interview with the Examiner and will be making arrangements shortly after the filing of this Amendment to conduct such an interview.

Dependent claims 49-63 distinguish at least for the reasons noted with respect to independent claim 48 and also by reciting additional features not suggested.

The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519.

Respectfully submitted,

  
Brett A. Valiquet (Reg. No. 27,841)

Brett A. Valiquet  
Schiff Hardin LLP  
Patent Department  
6600 Sears Tower  
Chicago, Illinois 60606  
Telephone: (312) 258-5786  
Attorneys for Applicants.  
**CUSTOMER NO. 26574**